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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,241	01/23/2004	Chien-Jen Chang	14675-013001	8037

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EXAMINER	
SCOTT JR, THOMAS E	
ART UNIT	PAPER NUMBER
2609	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/764,241	CHANG, CHIEN-JEN	
	Examiner	Art Unit	
	Thomas E. Scott Jr	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *05/19/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The U.S. Patent Document and the Abstract of the Foreign Patent Document references listed on the Information Disclosure Statement filed on May 19, 2006 have been considered by examiner; see attached PTO-1449.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 7-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Mori (U.S. 2003/0025718 A1).

- In claim 1, Mori teaches a method for dynamic gamma adjustment of an LCD (display panel – 1 – Fig. 1) having a data driver (PMW pulse control unit - 8 and column wire switch unit –11 – see [0040]) and a gate driver (row select control

unit – 12 and row drive output SW unit – 13 – see [0041]) comprising the following steps:

- detecting a brightness data (mean brightness detection unit - 33) of a data signal (digital video image signal – S2 and mean brightness – S6) provided by the data driver (see [0038]);
- providing a gamma signal (display signal – S10) according to the brightness data to the data driver (see [0040]).
- In claim 8, this claim differs from claim 1 in that claim 1 is method whereas claim 8 is apparatus. The additional limitations "brightness sampling circuit", "brightness classifying circuit", as well as, "a gamma decision circuit" based on predetermined factors are taught by Mori. That is Mori teaches:
- a brightness sampling circuit (mean brightness detection unit - 33) for detecting a brightness data of a data signal provided by the data driver (see [0039] and Fig. 1);
- a brightness classifying circuit (brightness multiplier of the system control unit – 21) for classifying the brightness data (brightness control value) into a predetermined brightness group (brightness suppression coefficient) – (see [0044]); and
- a gamma decision circuit (signal processing unit - 7) for providing a predetermined gamma signal (display signal – S10 in Fig. 1) of the predetermined brightness group to the data driver (see [0040]).

- In claims 7 and 9, Mori teaches the data signal [S2, S3, S4, S10] is a digital signal (see [0039] and [0043]).
- In claim 10, Mori teaches the brightness sampling circuit obtains the brightness data by analyzing the digital signal (see [0039]).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2-3 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori in view of Nishitani, et. al (U.S. 6,850,214 B2).

- As to claims 2 and 11, note the discussion of Mori in claims 1 and 8 above. Mori does not teach gray-level distribution. Nishitani teaches the brightness data (luminance data) representing a single frame (see col. 9, lines 15-57). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have added the gray-level distribution of a single frame of Nishitani to the brightness data of Mori because the gradation of inputted video data can be corrected in accordance with the brightness characteristic, thereby the

conspicuous or clear impression of the displayed image quality (see col.5, lines 41-44 of Nishitani).

- As to claims 3 and 12, Nishitani teaches the brightness data (luminance data) representing an average level of distribution of a plurality of frames (see col. 7, lines 10-15, col. 9, lines 4-22).

7. Claims 4-5 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori in view of Kim, et. al (U.S. 2003/0151565 A1).

- As to claims 4 and 13, note the discussion of Mori in claims 1 and 8 above. Mori does not teach the gamma signal enhancing the brightness resolution of a low gray level. Kim teaches the gamma signal enhances the brightness resolution of a low gray level when the brightness data belongs to a low gray level (see [0152 – Fig. 33 – Gamma curve C of Kim]). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have added the enhanced brightness resolution of a low gray level of Kim to the gamma signal of Mori because the brightness of a lower gray level is enhanced much more to thereby prevent deterioration of the image at a low gray level (see [0152] and Fig. 33 of Kim).
- As to claims 5 and 14, Kim teaches the gamma signal enhancing the brightness resolution of a high gray level when the brightness data belongs to a high gray level (see [0152 – Fig. 33 – Gamma curve A of Kim]). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have added the enhanced brightness resolution of a high gray level of Kim to the

gamma signal of Mori so that distribution upper gray level is prevented from saturating and an output image distortion is avoided (see [0164], [0152], and Fig.33 of Kim).

8. Claims 6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori in view of Moon (U.S. 2002/0180680 A1).

- As to claims 6 and 15, note the discussion of Mori in claims 1 and 8 above. Mori does not teach the gamma signal adjusts a voltage level. Moon teaches gamma signal adjusting a voltage level of the data signal presenting a predetermined gray level (see [0115 – 0116 of Moon]). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have added the voltage level gamma adjustment of Moon to the gamma signal of Mori because the gamma curve can be controlled to have a predetermined gamma constant without any loss in the gray scale data (see [0096-0097 of Moon).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure.

- Kim, et. al (U.S. 2003/0058211 A1) discloses a LCD display and driving method regarding gray level correction values.

- Yoshinaga, et. al (U.S. 2002/0063670 A1) discloses a means for comparing brightness levels in a LCD display device.
- Yamazaki, et. al (U.S. 2002/0011978 A1) discloses a display device capable on controlling luminance response to surrounding brightness levels.

Inquiries

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Thomas E. Scott, Jr. whose telephone number is (571) 270 1714. The examiner can normally be reached on Monday to Friday 7:30 AM – 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on (571) 272 – 7772. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of this application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217 – 9197 (toll free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated information system, please call (800) 786-9199 (IN THE USA OR CANADA) or (571) 272 – 1000.

TESJR

Thomas E. Scott, Jr.

Chanh Nguyen

CHANH D. NGUYEN
SUPERVISORY PATENT EXAMINER

Examiner

10 April 2007